MITSUBISHI ELECTRIC
三菱电机

Changes for the Better

晶体管阵列产品系列

丰富的产品系列为实现应用装置的小型化和轻量化作贡献

晶体管阵列产品系列

产品应用领域
Application

晶体管阵列是一种仅通过输入一微小电流就可以获得较大驱动电流的半导体集成电路。
丰富的产品系列(30mA～1.5A/20V～80V),已被广泛应用于各种领域。
采用表面安装形式使应用装置体积更小、重量更轻、安装密度更高。

●大型模拟游戏机
●投币机

●复印机
●传真机
●打印机
●带有打印机的计算器

●空调
●取暖器
●洗衣机
●电冰箱
●热水器

●自动售货机
●序列发生器
●测量仪器
●电梯

引　索

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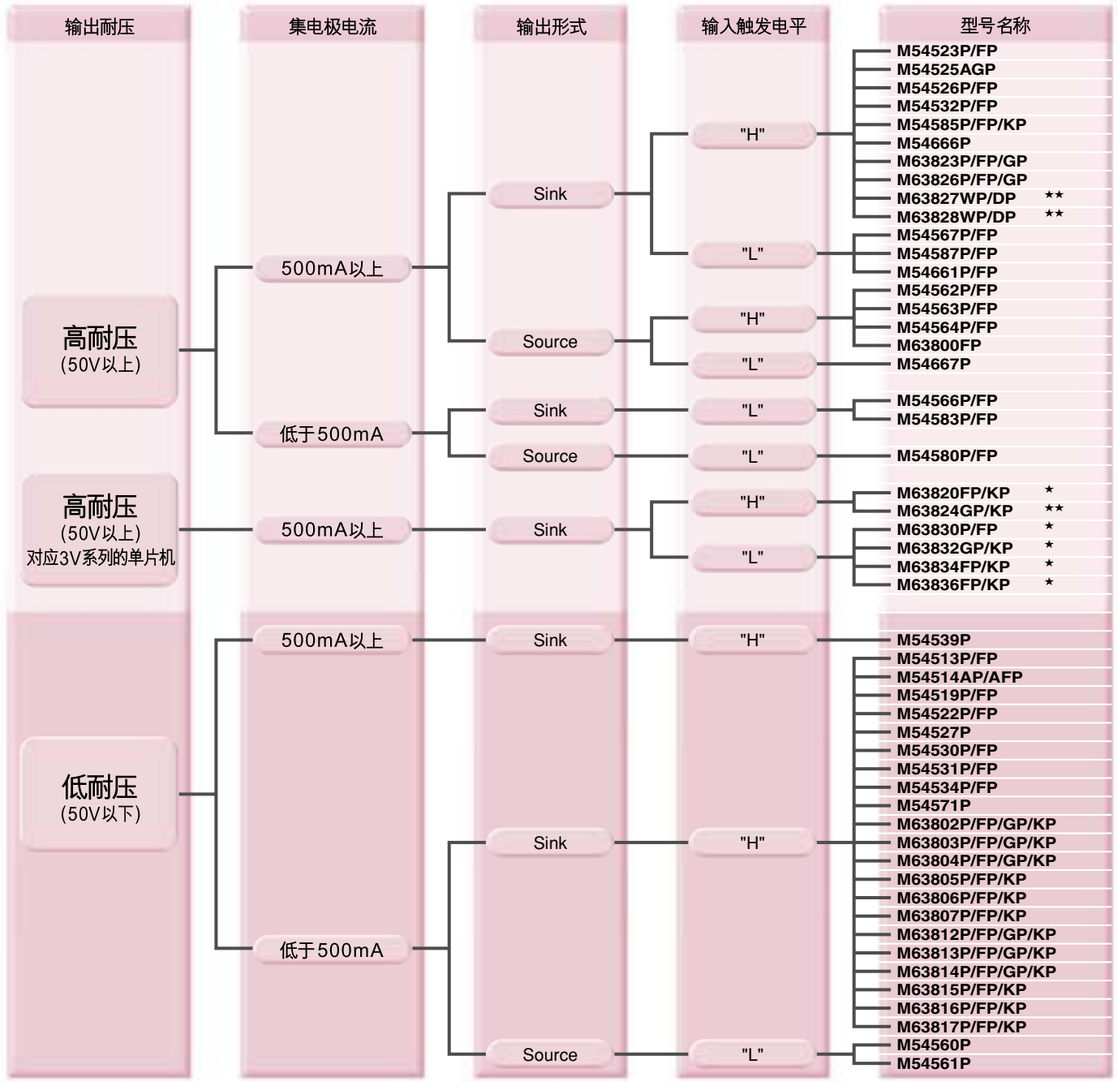
功能一览 Function Reference



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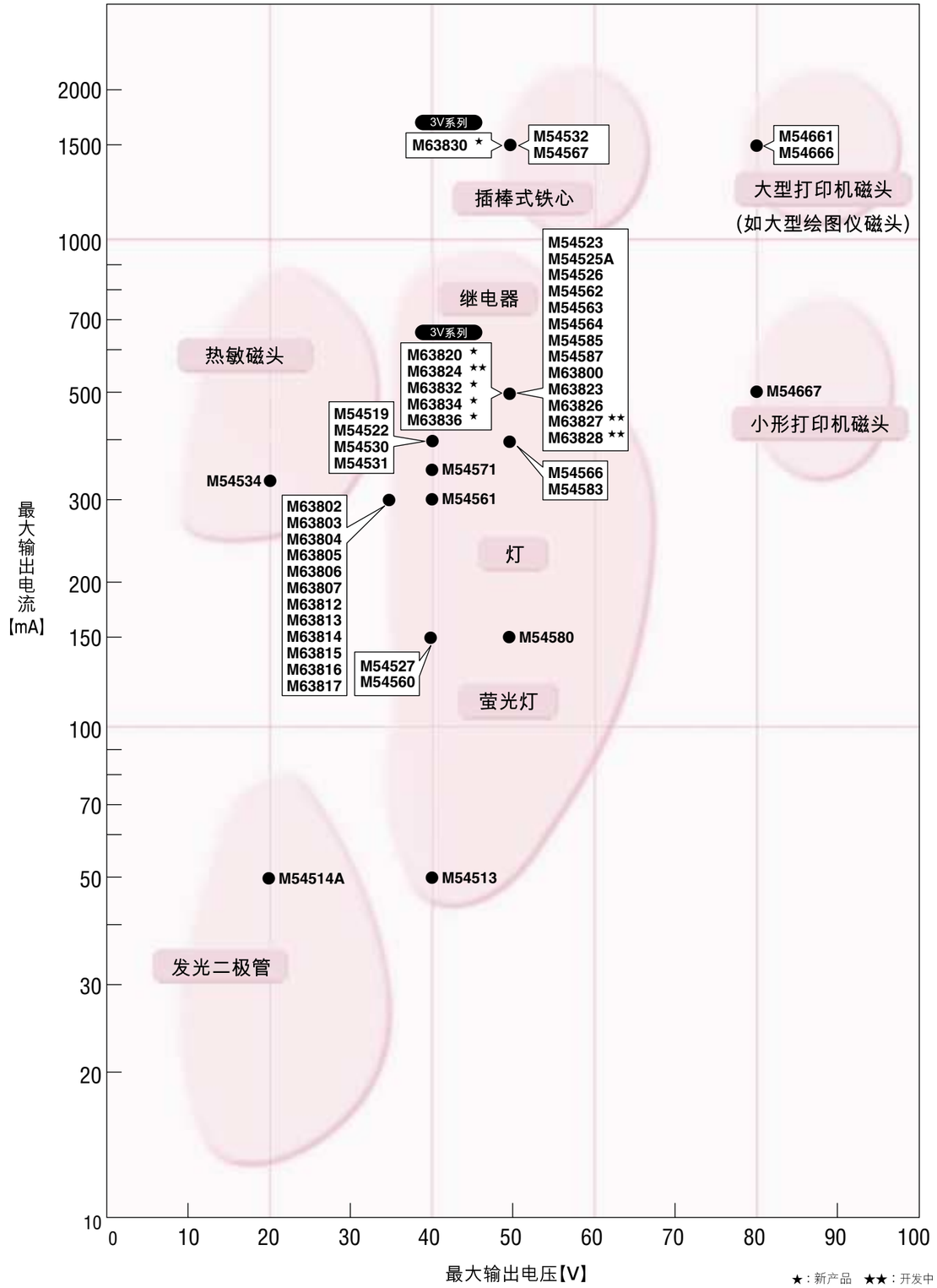
产品型号命名方法

M	5	4523		P
M	5	4525	A	GP
M	6	3802		KP
M	6	3823		FP

- 封装种类……**P/WP**:DIP型　**FP/GP/DP**:SOP型　**KP**:SSOP型
- 辅助标记
- 电路形式和不同系列电路的种类
- 用途和工作环境温度
- 三菱集成电路的简略表示符号

应用一览表 Application Reference



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产品一览表

Quick Reference

	型号名	封装名称	电路数	用途				特性									
				发光二极管	螺线管	继电器	灯	输入触发电平	输出电流形式	输出电流(mA)	输出电压(V)	达林顿晶体管接入	钳位二极管	低饱和电压VCE(sat)	低电平输入驱动	输入二极管	小型封装
1	M54513P	18P4G	8	○			○	H	Sink	50	40			○	○		
2	M54513FP	20P2N	8	○			○	H	Sink	50	40			○	○		○
3	M54514AP	16P4	7	○				H	Sink	50	20			○	○		
4	M54514AFP	16P2N	7	○				H	Sink	50	20			○	○		○
5	M54519P	16P4	7	○		○	○	H	Sink	400	40	○					
6	M54519FP	16P2N	7	○		○	○	H	Sink	400	40	○					○
◎ 7	M54522P	18P4G	8	○	○	○	○	H	Sink	400	40	○	○				
◎ 8	M54522FP	20P2N	8	○	○	○	○	H	Sink	400	40	○	○				○
9	M54523P	16P4	7	○	○	○	○	H	Sink	500	50	○	○		○		
10	M54523FP	16P2N	7	○	○	○	○	H	Sink	500	50	○	○		○		○
◎ 11	M54525AGP	16P2S	7	○	○	○	○	H	Sink	500	50	○	○			○	○
12	M54526P	16P4	7	○	○	○	○	H	Sink	500	50	○	○				
13	M54526FP	16P2N	7	○	○	○	○	H	Sink	500	50	○	○				○
14	M54527P	14P4	6	○		○	○	H	Sink	150	40	○	○			○	
◎ 15	M54530P	16P4	7	○	○	○	○	H	Sink	400	40	○	○				
◎ 16	M54530FP	16P2N	7	○	○	○	○	H	Sink	400	40	○	○				○
◎ 17	M54531P	16P4	7	○	○	○	○	H	Sink	400	40	○	○			○	
◎ 18	M54531FP	16P2N	7	○	○	○	○	H	Sink	400	40	○	○			○	○
◎ 19	M54532P	16P4	4	○	○	○	○	H	Sink	1500	50	○	○		○		
◎ 20	M54532FP	16P2N	4	○	○	○	○	H	Sink	1500	50	○	○		○		○
21	M54534P	16P4	6	○		○	○	H	Sink	320	20		○	○		○	
22	M54534FP	16P2N	6	○		○	○	H	Sink	320	20		○	○		○	○
23	M54539P	16P4	6	○		○	○	H	Sink	700	20		○	○	○		
24	M54560P	16P4	7	○		○	○	L	Source	150	40	○	○				
◎ 25	M54561P	16P4	7	○		○	○	L	Source	300	40	○	○				
◎ 26	M54562P	18P4G	8	○		○	○	H	Source	500	50	○	○		○		
◎ 27	M54562FP	20P2N	8	○		○	○	H	Source	500	50	○	○		○		○
◎ 28	M54563P	18P4G	8	○		○	○	H	Source	500	50	○	○		○		
◎ 29	M54563FP	20P2N	8	○		○	○	H	Source	500	50	○	○		○		○
◎ 30	M54564P	18P4G	8	○		○	○	H	Source	500	50	○			○		
◎ 31	M54564FP	20P2N	8	○		○	○	H	Source	500	50	○			○		○
◎ 32	M54566P	16P4	7	○		○	○	L	Sink	400	50	○					
◎ 33	M54566FP	16P2N	7	○		○	○	L	Sink	400	50	○					○
◎ 34	M54567P	16P4	4	○	○	○	○	L	Sink	1500	50	○	○			○	
◎ 35	M54567FP	16P2N	4	○	○	○	○	L	Sink	1500	50	○	○			○	○
36	M54571P	20P4	6	○	○	○	○	H	Sink	350	40		○	○	○		
◎ 37	M54580P	16P4	7	○		○	○	L	Source	150	50	○				○	
◎ 38	M54580FP	16P2N	7	○		○	○	L	Source	150	50	○				○	○
◎ 39	M54583P	18P4G	8	○		○	○	L	Sink	400	50	○				○	
◎ 40	M54583FP	20P2N	8	○		○	○	L	Sink	400	50	○				○	○
◎ 41	M54585P	18P4G	8	○	○	○	○	H	Sink	500	50	○	○		○		
◎ 42	M54585FP	20P2N	8	○	○	○	○	H	Sink	500	50	○	○		○		○
◎ 43	M54585KP	20P2E	8	○	○	○	○	H	Sink	500	50	○	○		○		○
◎ 44	M54587P	20P4	8	○	○	○	○	L	Sink	500	50	○	○			○	
◎ 45	M54587FP	20P2N	8	○	○	○	○	L	Sink	500	50	○	○			○	○
46	M54661P	16P4	4	○	○	○	○	L	Sink	1500	80	○	○			○	
47	M54661FP	16P2N	4	○	○	○	○	L	Sink	1500	80	○	○			○	○
48	M54666P	16P4	4	○	○	○	○	L	Sink	1500	80		○	○	○		
49	M54667P	20P4	8	○		○	○	H	Source	500	80	○	○				
◎ 50	M63800FP	16P2N	7	○		○	○	L	Source	500	50	○	○		○		
◎ 51	M63802P	16P4	7	○		○	○	H	Sink	300	35			○		○	
◎ 52	M63802FP	16P2N	7	○		○	○	H	Sink	300	35			○		○	○
◎ 53	M63802GP	16P2S	7	○		○	○	H	Sink	300	35			○		○	○
◎ 54	M63802KP	16P2Z	7	○		○	○	H	Sink	300	35			○		○	○
◎ 55	M63803P	16P4	7	○		○	○	H	Sink	300	35			○	○		
◎ 56	M63803FP	16P2N	7	○		○	○	H	Sink	300	35			○	○		○
◎ 57	M63803GP	16P2S	7	○		○	○	H	Sink	300	35			○	○		○

◎：推荐产品

	型号名	封装名称	电路数	用途				特性									
				发光二极管	螺线管	继电器	灯	输入触发电平	输出电流形式	输出电流(mA)	输出电压(V)	达林顿晶体管接入	钳位二极管	低饱和电压VCE(sat)	低电平输入驱动	输入二极管	小型封装
◎ 58	M63803KP	16P2Z	7	○		○	○	H	Sink	300	35			○	○		○
◎ 59	M63804P	16P4	7	○		○	○	H	Sink	300	35			○			
◎ 60	M63804FP	16P2N	7	○		○	○	H	Sink	300	35			○			○
◎ 61	M63804GP	16P2S	7	○		○	○	H	Sink	300	35			○			○
◎ 62	M63804KP	16P2Z	7	○		○	○	H	Sink	300	35			○			○
◎ 63	M63805P	18P4G	8	○		○	○	H	Sink	300	35			○		○	
◎ 64	M63805FP	20P2N	8	○		○	○	H	Sink	300	35			○		○	○
◎ 65	M63805KP	20P2E	8	○		○	○	H	Sink	300	35			○		○	○
◎ 66	M63806P	18P4G	8	○		○	○	H	Sink	300	35			○	○		
◎ 67	M63806FP	20P2N	8	○		○	○	H	Sink	300	35			○	○		○
◎ 68	M63806KP	20P2E	8	○		○	○	H	Sink	300	35			○	○		○
◎ 69	M63807P	18P4G	8	○		○	○	H	Sink	300	35			○			
◎ 70	M63807FP	20P2N	8	○		○	○	H	Sink	300	35			○			○
◎ 71	M63807KP	20P2E	8	○		○	○	H	Sink	300	35			○			○
◎ 72	M63812P	16P4	7	○		○	○	H	Sink	300	35		○	○		○	
◎ 73	M63812FP	16P2N	7	○		○	○	H	Sink	300	35		○	○		○	○
◎ 74	M63812GP	16P2S	7	○		○	○	H	Sink	300	35		○	○		○	○
◎ 75	M63812KP	16P2Z	7	○		○	○	H	Sink	300	35		○	○		○	○
◎ 76	M63813P	16P4	7	○		○	○	H	Sink	300	35		○	○	○		
◎ 77	M63813FP	16P2N	7	○		○	○	H	Sink	300	35		○	○	○		○
◎ 78	M63813GP	16P2S	7	○		○	○	H	Sink	300	35		○	○	○		○
◎ 79	M63813KP	16P2Z	7	○		○	○	H	Sink	300	35		○	○	○		○
◎ 80	M63814P	16P4	7	○		○	○	H	Sink	300	35		○	○			
◎ 81	M63814FP	16P2N	7	○		○	○	H	Sink	300	35		○	○			○
◎ 82	M63814GP	16P2S	7	○		○	○	H	Sink	300	35		○	○			○
◎ 83	M63814KP	16P2Z	7	○		○	○	H	Sink	300	35		○	○			○
◎ 84	M63815P	18P4G	8	○		○	○	H	Sink	300	35		○	○		○	
◎ 85	M63815FP	20P2N	8	○		○	○	H	Sink	300	35		○	○		○	○
◎ 86	M63815KP	20P2E	8	○		○	○	H	Sink	300	35		○	○		○	○
◎ 87	M63816P	18P4G	8	○		○	○	H	Sink	300	35		○	○	○		
◎ 88	M63816FP	20P2N	8	○		○	○	H	Sink	300	35		○	○	○		○
◎ 89	M63816KP	20P2E	8	○		○	○	H	Sink	300	35		○	○	○		○
◎ 90	M63817P	18P4G	8	○		○	○	H	Sink	300	35		○	○			
◎ 91	M63817FP	20P2N	8	○		○	○	H	Sink	300	35		○	○			○
◎ 92	M63817KP	20P2E	8	○		○	○	H	Sink	300	35		○	○			○
◎ 93	M63820FP ★	20P2N	8	○	○	○	○	H	Sink	500	50	○	○		○		○
◎ 94	M63820KP ★	20P2E	8	○	○	○	○	H	Sink	500	50	○	○		○		○
◎ 95	M63823P	16P4	7	○	○	○	○	H	Sink	500	50	○	○		○		
◎ 96	M63823FP	16P2N	7	○	○	○	○	H	Sink	500	50	○	○		○		○
◎ 97	M63823GP	16P2S	7	○	○	○	○	H	Sink	500	50	○	○		○		○
◎ 98	M63824GP ★★	16P2S	7	○	○	○	○	H	Sink	500	50	○	○		○		○
◎ 99	M63824KP ★★	16P2E	7	○	○	○	○	H	Sink	500	50	○	○		○		○
◎ 100	M63826P	16P4	7	○	○	○	○	H	Sink	500	50	○	○				
◎ 101	M63826FP	16P2N	7	○	○	○	○	H	Sink	500	50	○	○			○	○
◎ 102	M63826GP	16P2S	7	○	○	○	○	H	Sink	500	50	○	○			○	○
◎ 103	M63827WP ★★	16P4X	7	○	○	○	○	H	Sink	500	50	○	○		○		
◎ 104	M63827DP ★★	16P2X	7	○	○	○	○	H	Sink	500	50	○	○		○		○
◎ 105	M63828WP ★★	16P4X	7	○	○	○	○	H	Sink	500	50	○	○				
◎ 106	M63828DP ★★	16P2X	7	○	○	○	○	H	Sink	500	50	○	○			○	○
◎ 107	M63830P ★	16P4	4	○	○	○	○	L	Sink	1500	50	○	○		○	○	○
◎ 108	M63830FP ★	16P2N	4	○	○	○	○	L	Sink	1500	50	○	○		○	○	○
◎ 109	M63832GP ★	16P2S	7	○		○	○	L	Sink	500	50	○			○	○	○
◎ 110	M63832KP ★	16P2E	7	○		○	○	L	Sink	500	50	○			○	○	○
◎ 111	M63834FP ★	20P2N	8	○		○	○	L	Sink	500	50	○			○	○	○
◎ 112	M63834KP ★	20P2E	8	○		○	○	L	Sink	500	50	○			○	○	○
◎ 113	M63836FP ★	20P2N	8	○	○	○	○	L	Sink	500	50	○	○		○	○	○
◎ 114	M63836KP ★	20P2E	8	○	○	○	○	L	Sink	500	50	○	○		○	○	○

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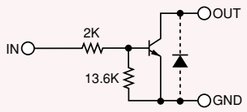
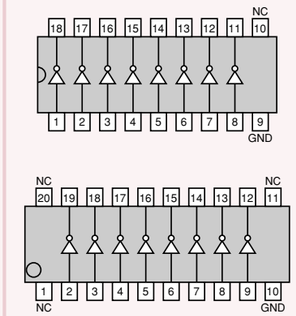
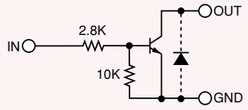
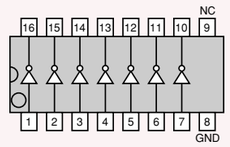
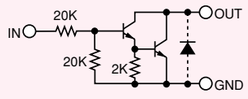
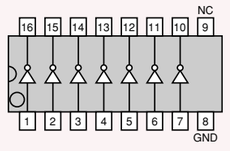
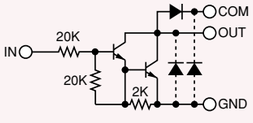
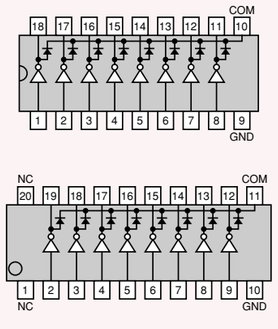
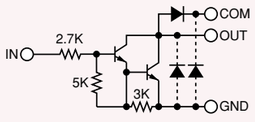
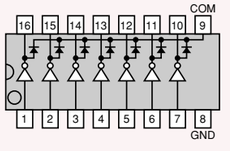
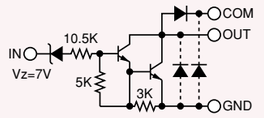
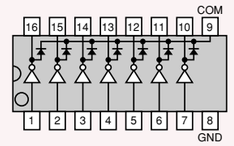
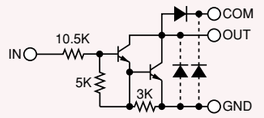
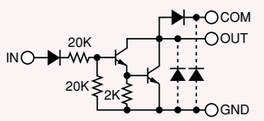
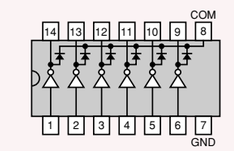
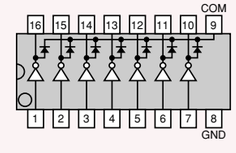
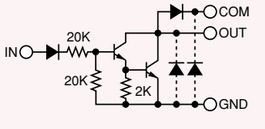
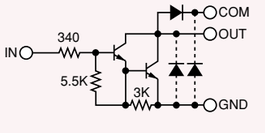
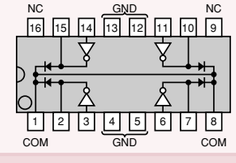
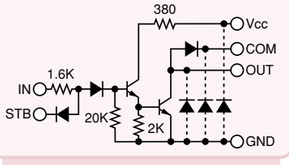
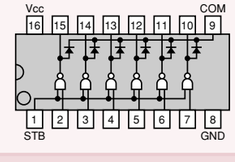
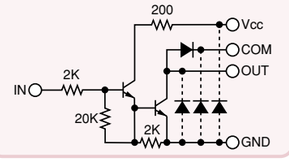
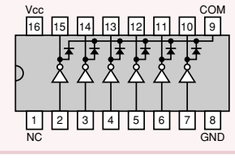
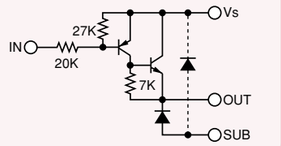
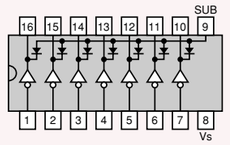
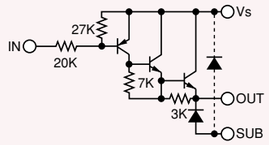
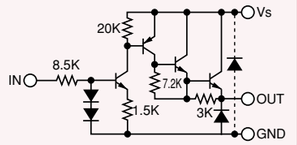
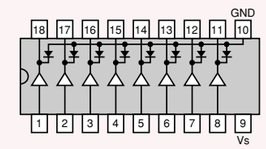
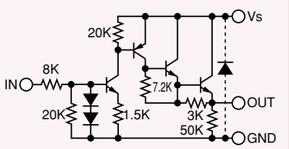
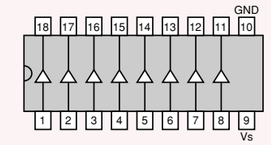
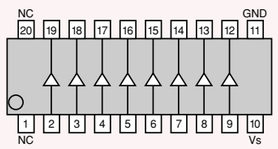
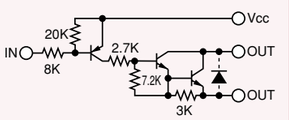
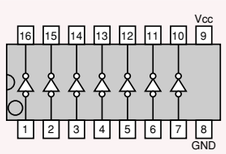
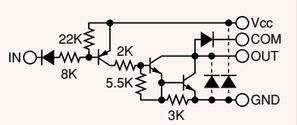
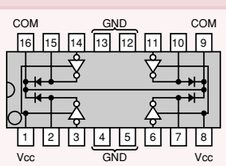
型号名称	输出电流 (mA)	输出电压 (V)	电路图	管脚连接图	封装外形图
M54513P/FP	50	40			 **18P4G** **20P2N**
M54514AP/AFP	50	20			 **16P4** **16P2N**
M54519P/FP	400	40			 **16P4** **16P2N**
M54522P/FP	400	40			 **18P4G** **20P2N**
M54523P/FP	500	50			 **16P4** **16P2N**

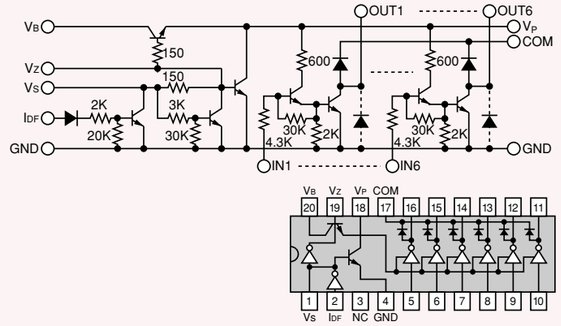
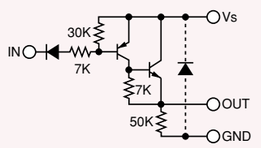
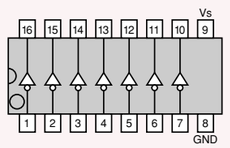
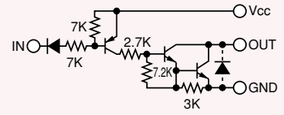
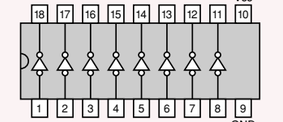
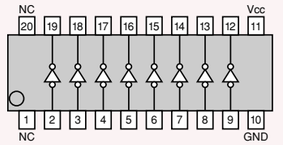
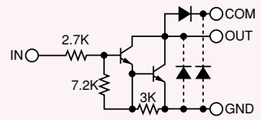
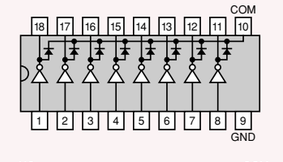
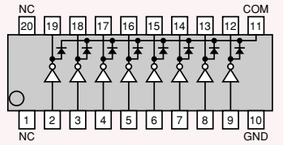
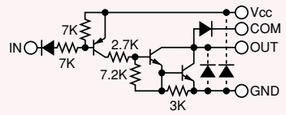
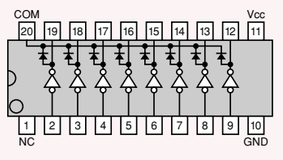
NC：空管脚

型号名称	输出电流 (mA)	输出电压 (V)	电路图	管脚连接图	封装外形图
M54525AGP	500	50			 **16P2S**
M54526P/FP	500	50			 **16P4** **16P2N**
M54527P	150	40			 **14P4**
M54530P/FP	400	40			 **16P4** **16P2N**
M54531P/FP	400	40			
M54532P/FP	1500	50			 **16P4** **16P2N**
M54534P/FP	320	20			 **16P4** **16P2N**
M54539P	700	20			 **16P4**

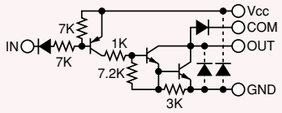
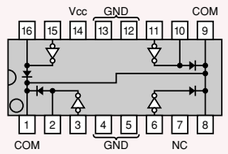
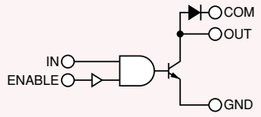
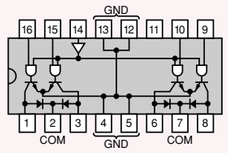
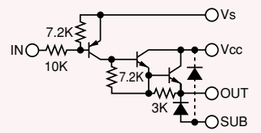
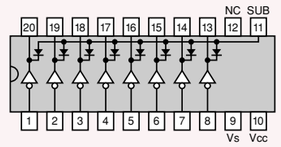
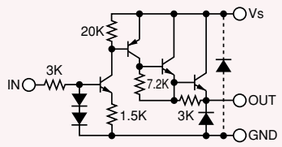
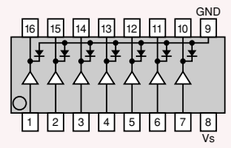
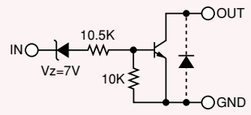
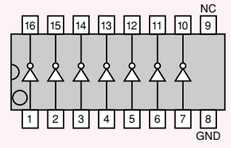
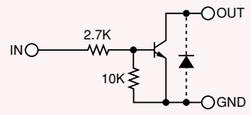
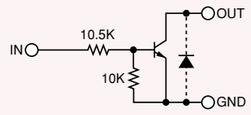
NC：空管脚

型号名称	输出电流 (mA)	输出电压 (V)	电路图	管脚连接图	封装外形图
M54560P	150	40			**16P4**
M54561P	300	40			
M54562P/FP	500	50			**18P4G**
M54563P/FP	500	50			**20P2N**
M54564P/FP	500	50		 	**18P4G** **20P2N**
M54566P/FP	400	50			**16P4** **16P2N**
M54567P/FP	1500	50			**16P4** **16P2N**

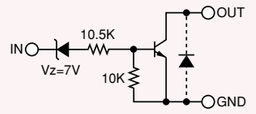
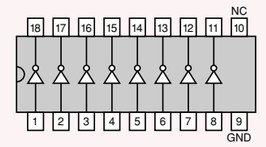
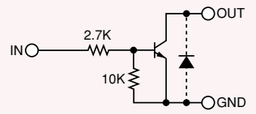
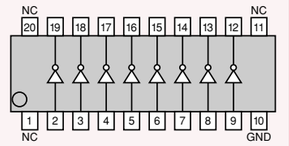
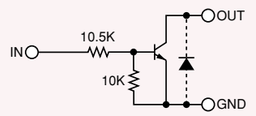
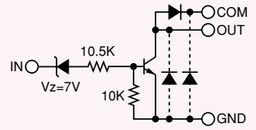
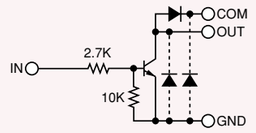
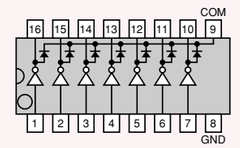
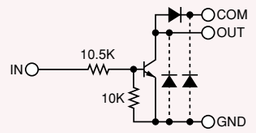
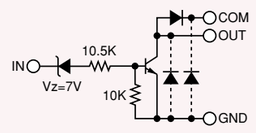
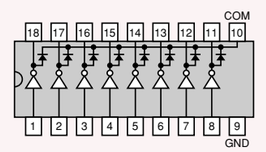
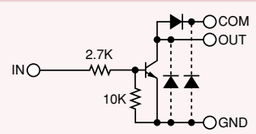
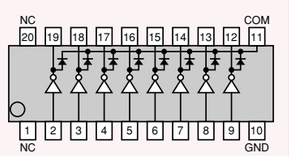
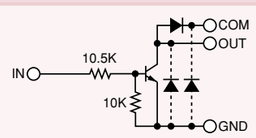
NC：空管脚

型号名称	输出电流 (mA)	输出电压 (V)	电路图	管脚连接图	封装外形图
M54571P	350	40			**20P4**
M54580P/FP	150	50			**16P4** **16P2N**
M54583P/FP	400	50		 	**18P4G** **20P2N**
M54585P/FP/KP	500	50		 	**18P4G** **20P2N** **20P2E**
M54587P/FP	500	50			**20P4** **20P2N**

NC：空管脚

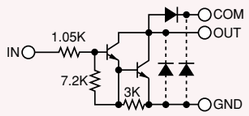
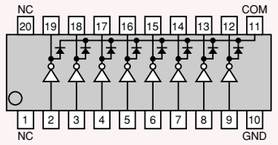
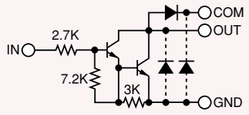
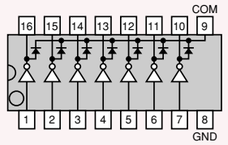
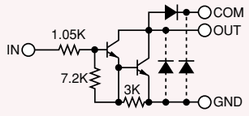
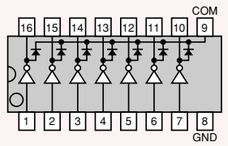
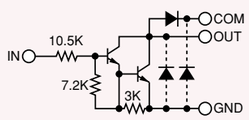
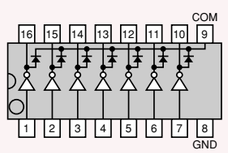
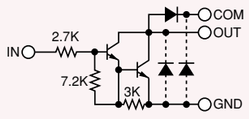
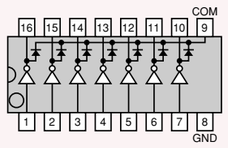
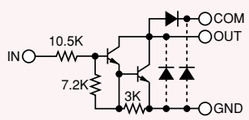
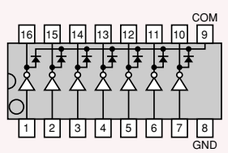
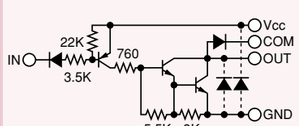
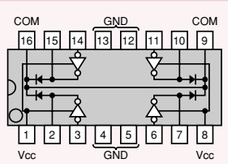
型号名称	输出电流 (mA)	输出电压 (V)	电路图	管脚连接图	封装外形图
M54661P/FP	1500	80			16P4 16P2N
M54666P	1500	80			16P4
M54667P	500	80			20P4
M63800FP	500	50			16P2N
M63802P/FP/ GP/KP	300	35			16P4 16P2N 16P2S 16P2Z
M63803P/FP/ GP/KP	300	35			
M63804P/FP/ GP/KP	300	35			

NC : 空管脚

型号名称	输出电流 (mA)	输出电压 (V)	电路图	管脚连接图	封装外形图
M63805P/FP/ KP	300	35			18P4G 20P2N 20P2E
M63806P/FP/ KP	300	35			
M63807P/FP/ KP	300	35			
M63812P/FP/ GP/KP	300	35			16P4
M63813P/FP/ GP/KP	300	35			16P2N 16P2S 16P2Z
M63814P/FP/ GP/KP	300	35			
M63815P/FP/ KP	300	35			18P4G 20P2N 20P2E
M63816P/FP/ KP	300	35			
M63817P/FP/ KP	300	35			

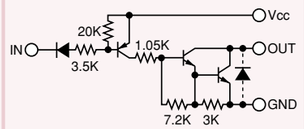
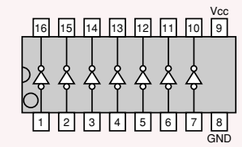
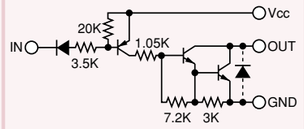
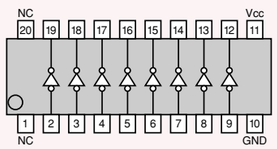
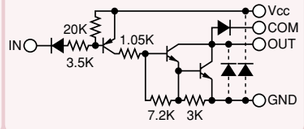
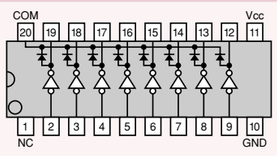
NC : 空管脚

电路图 · 管脚连接图 Circuit/Pin Connection

型号名称	输出电流 (mA)	输出电压 (V)	电路图	管脚连接图	封装外形图
★ **M63820FP/KP**	500	50			20P2N 20P2E
M63823P/FP/ GP	500	50			16P4 16P2N 16P2S
★★ **M63824GP/KP**	500	50			16P2S 16P2E
M63826P/FP/ GP	500	50			16P4 16P2N 16P2S
★★ **M63827WP/DP**	500	50			16P4X 16P2X
★★ **M63828WP/DP**	500	50			16P4X 16P2X
★ **M63830P/FP**	1500	50			16P4 16P2N

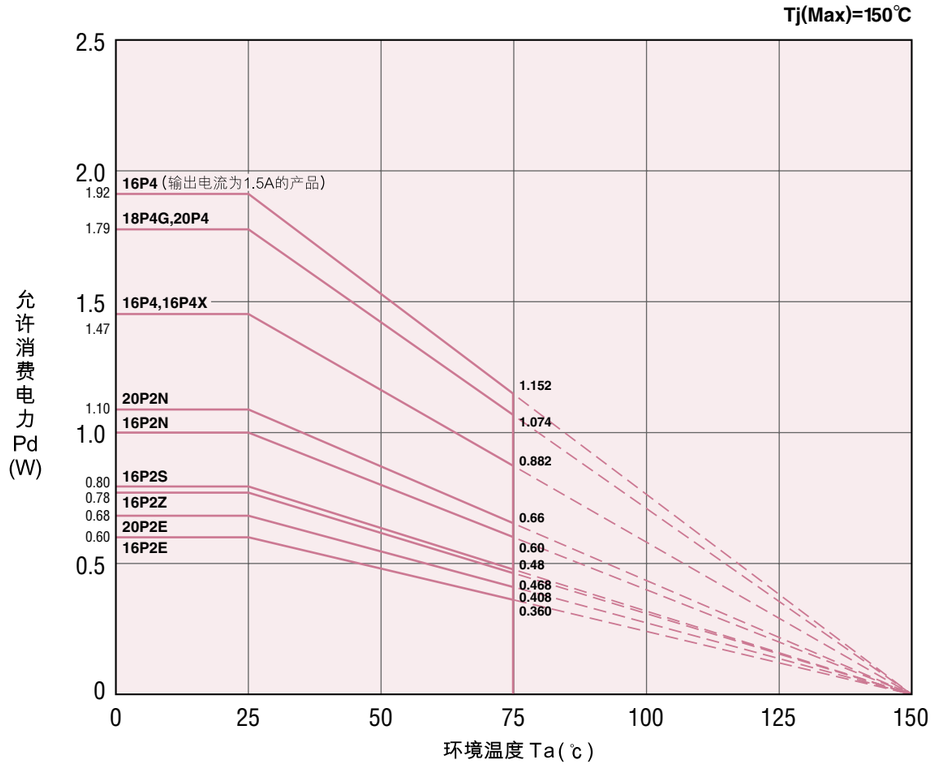
NC：空管脚 ★：新产品 ★★：开发中

热低减率特性 Thermal Dirtying Factor Characteristics

型号名称	输出电流 (mA)	输出电压 (V)	电路图	管脚连接图	封装外形图
★ **M63832GP/KP**	500	50			16P2S 16P2E
★ **M63834FP/KP**	500	50			20P2N 20P2E
★ **M63836FP/KP**	500	50			20P2N 20P2E

NC：空管脚 ★：新产品 ★★：开发中

热低减率特性



三菱晶体管阵列是在一块芯片上集成了4~8个电路，输出耐压30~80V，输出电流50~1500mA的半导体集成电路。这种晶体管阵列有各种各样的规格,下面将介绍它们当中的一些典型产品。

1 C-MOS IC电路直接驱动

现在举例说明与C-MOS IC直接相连的电路。这种类型的CMOS电路的输出既可用作吸收电流型(sink)也可以作为供给电流型(source)。连接例如图1、2所示。

图1. 输入高电平触发

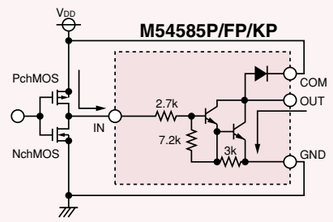
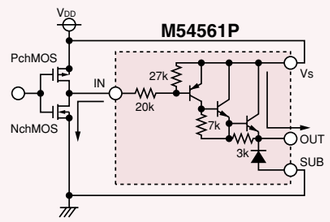


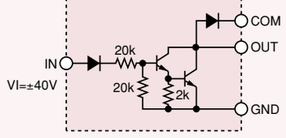
图2. 输入低电平触发



2 负电压输入类型

图3给出了内置一个输入二极管的晶体管阵列内部电路。通过此二极管输入也可为负电压。

图3 可输入负电压类型



3 输出吸收型、供给型

有二种输出电流形式:电流吸收型和电流供给型。图4、5列举了各自的应用电路。

图4. 吸收型输出电路举例

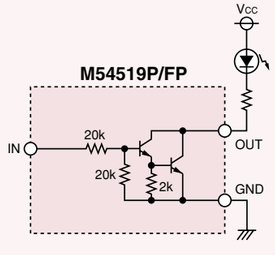
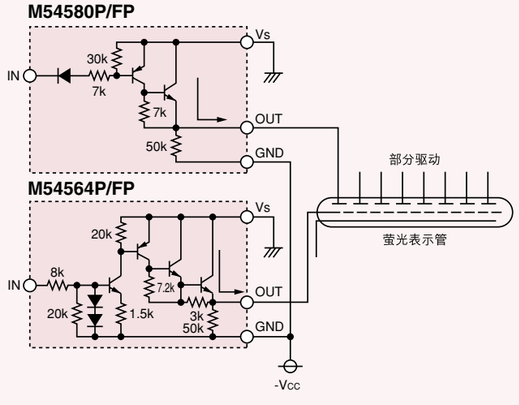


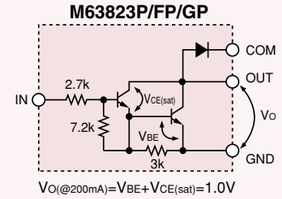
图5. 供给型输出电路举例



4 低饱和输出型

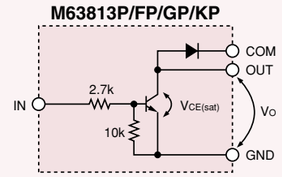
晶体管的输出形式有达林顿型和单一型两种。
图6所示的达林顿电路虽然具有仅输入微小的电流就可以获得较大驱动电流的特性，但是输出饱和电压在0.95~1.05V之间。
与此对照，图7则为低饱和电压的单一型电路。这两种典型电路的输出饱和电压与集电极电流特性曲线，如图8所示。

图6. 达林顿型电路



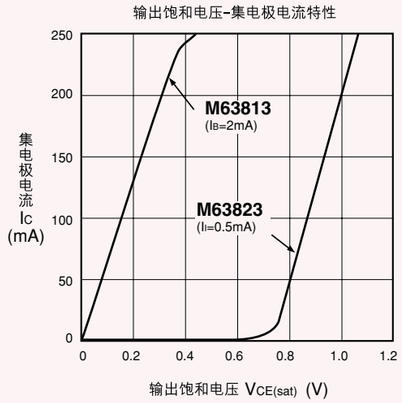
$V_{O(@200mA)}=V_{BE}+V_{CE(sat)}=1.0V$

图7. 单一型电路



$V_{O(@200mA)}=V_{CE(sat)}=0.3V$

图8. 输出饱和电压-集电极电流特性



5 带有输出钳位二极管型

当驱动如继电器、马达等感性负载时，为保护电路免受晶体管阵列关断时产生的翻转电压冲击，在电路中(如图10(b)所示)内置了一个钳位二极管。
当只连接钳位二极管时，如图9所示，电流在钳位二极管上的流通时间过长。而且对于继电器来说在开关动作时也多少都会有一些不利的影响。

如果出现此类问题，可以在COM端子处反向串联一个稳压二极管，这样就可以大大改善电流的流通时间。稳压二极管的电压(耐压)应该在$V_S+V_Z+V_F<V_{BR(CEO)}$的范围内，并且应该选用电压型稳压二极管。

图9. 感性负载驱动时的输出电压·电流波形

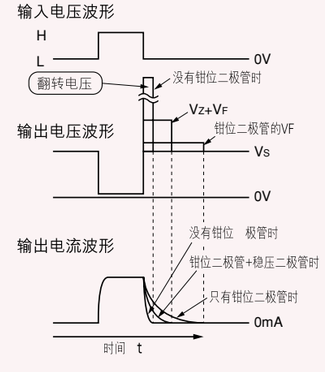
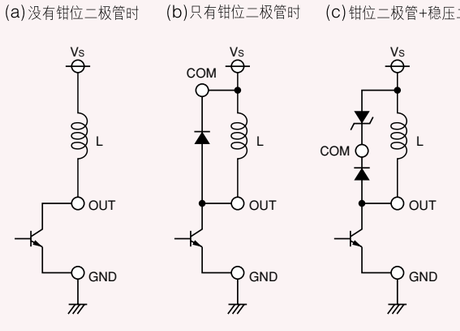
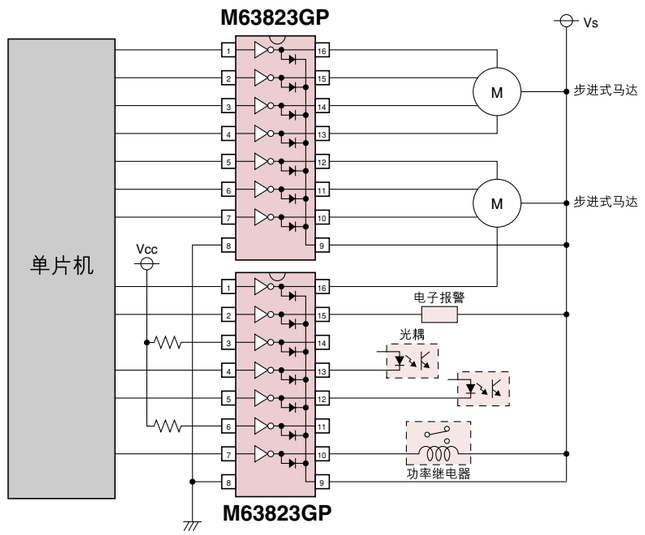
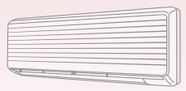


图10. 感性负载驱动时晶体管的保护方法

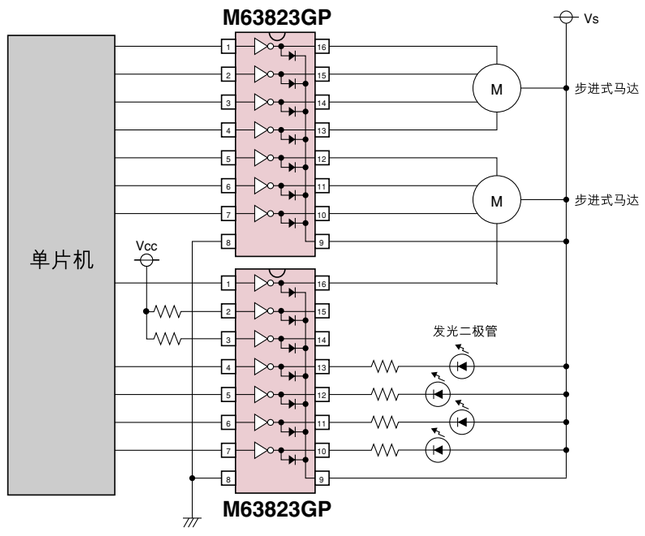


空调举例 1（室内机） AIR CONDITIONER EXAMPLE 1【INTERNAL UNIT】

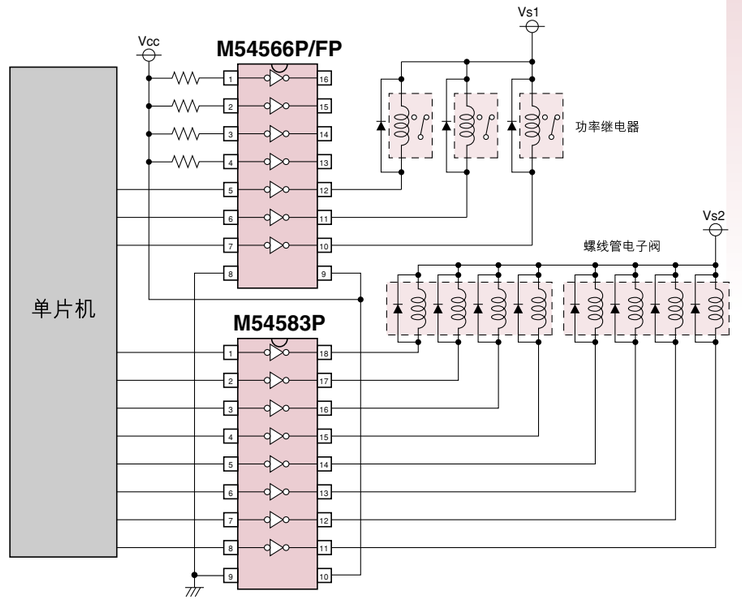


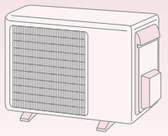


空调举例 2（室内机） AIR CONDITIONER EXAMPLE 2【INTERNAL UNIT】

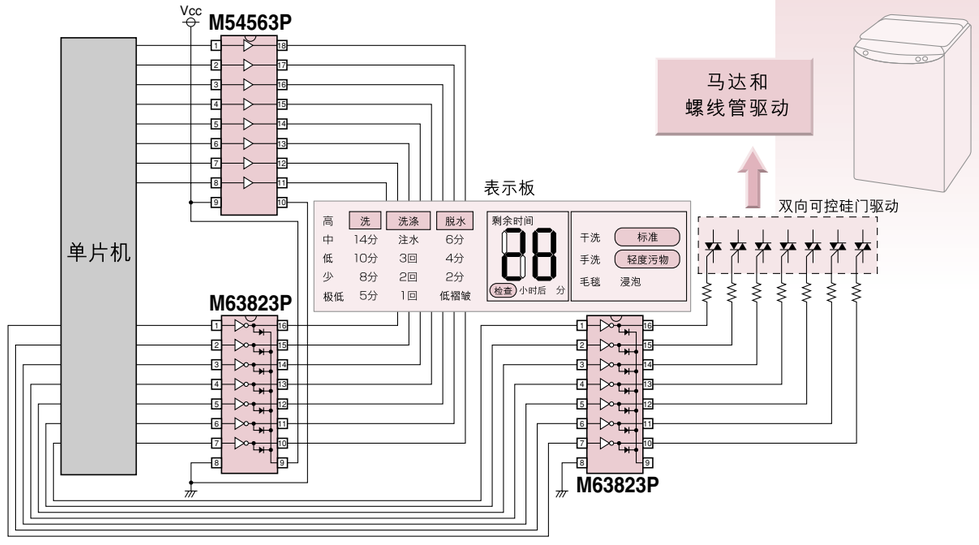


空调举例 3（室外机） AIR CONDITIONER EXAMPLE 3【EXTERNAL UNIT】

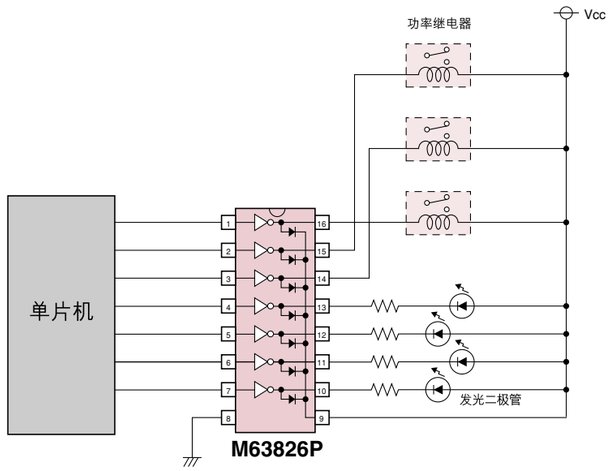


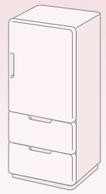


全自动洗衣机 WASHING MACHINE

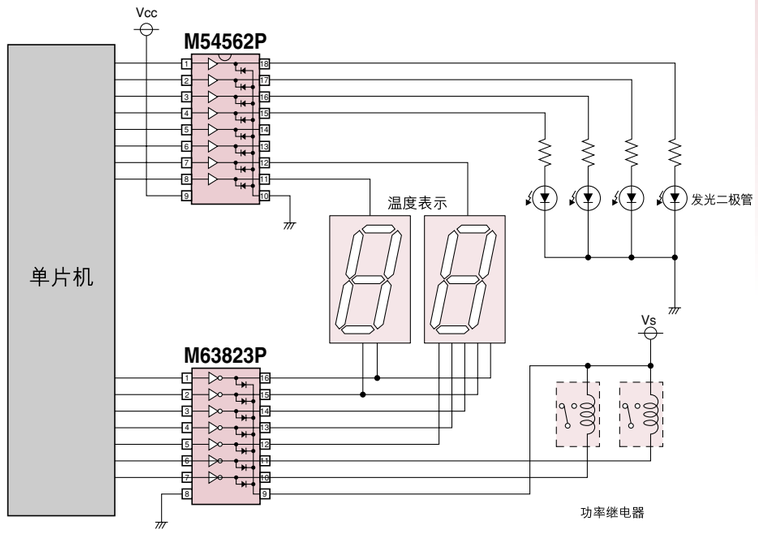


电冰箱

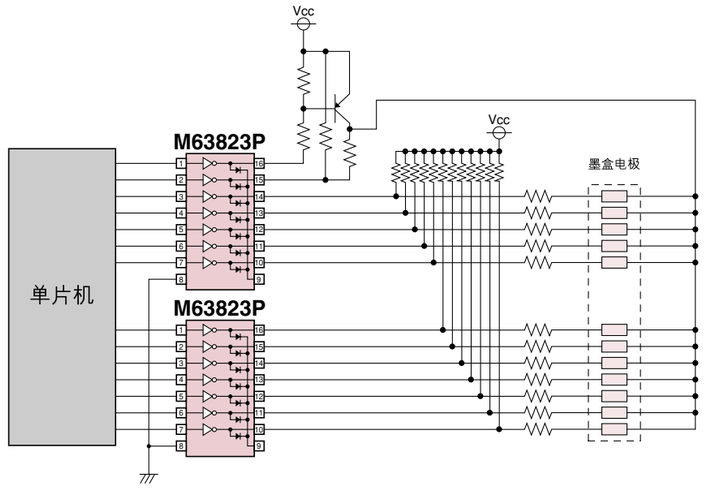


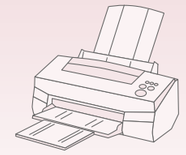


石油取暖器

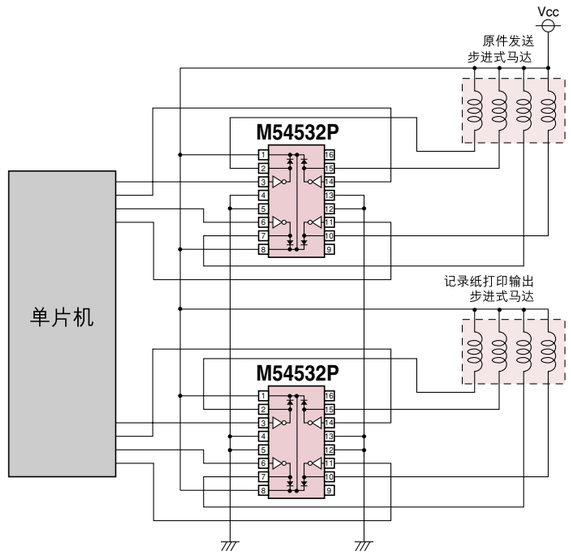


喷墨打印机



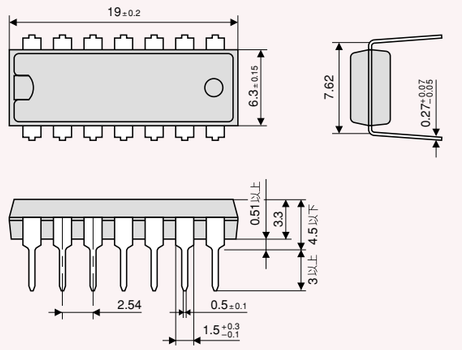


家用小型传真机

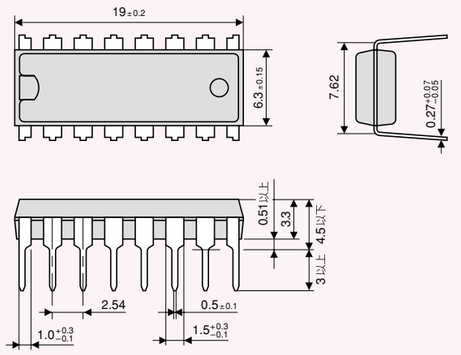


单位(Unit)：mm

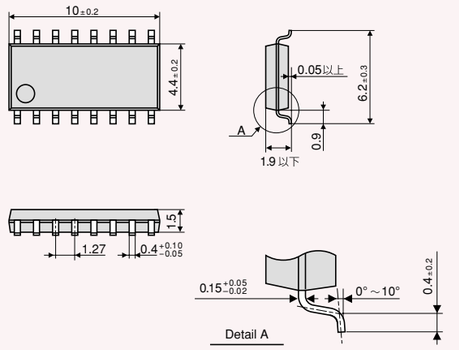
TYPE 14P4 14pin 300mil DIP



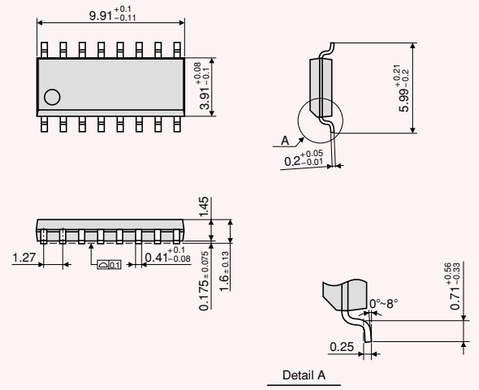
TYPE 16P4 16pin 300mil DIP



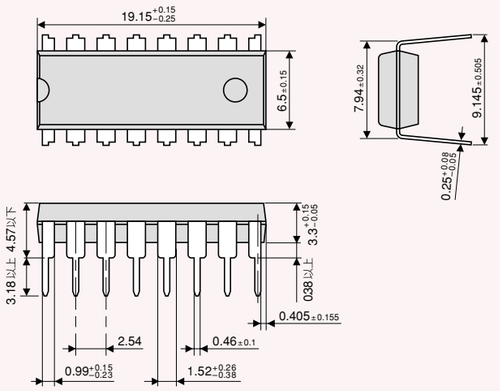
TYPE 16P2S 16pin 225mil SOP



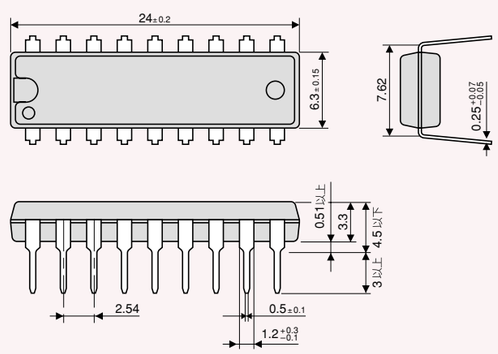
TYPE 16P2X 16pin 225mil SOP



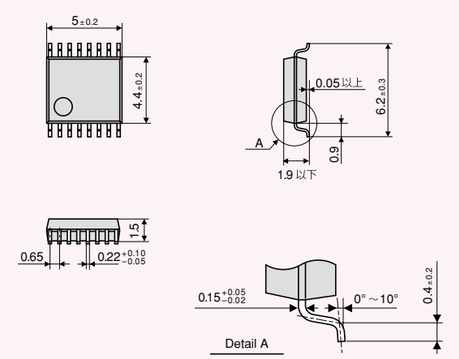
TYPE 16P4X 16pin 300mil DIP



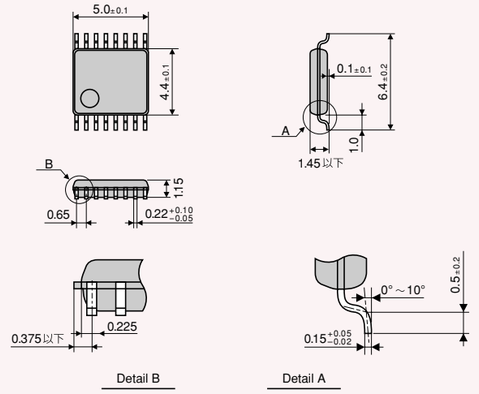
TYPE 18P4G 18pin 300mil DIP



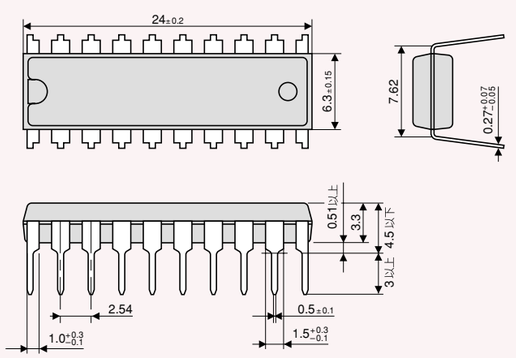
TYPE 16P2Z 16pin 225mil SSOP



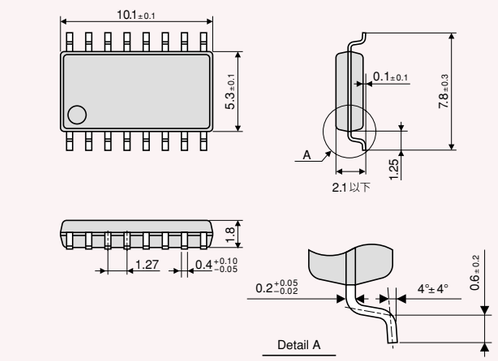
TYPE 16P2E 16pin 225mil SSOP



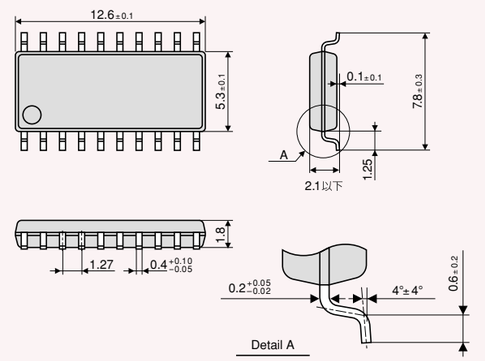
TYPE 20P4 20pin 300mil DIP



TYPE 16P2N 16pin 300mil SOP



TYPE 20P2N 20pin 300mil SOP



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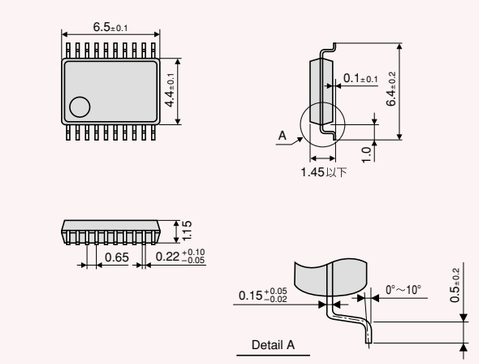

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